

WE CLAIM:

1. A passenger discriminating apparatus comprising:

a seat weight sensor for measuring the weight of an object on the seat; and

a human body proximity sensor for detecting the extent of proximity between the passenger on the seat and the seat; and

means for determining the presence of the passenger on the seat and for discriminating the type of passenger;

wherein said means for determining utilizes an output from the seat weight sensor and an output from the human body proximity sensor.

2. The passenger discriminating apparatus of Claim 1, wherein a plurality of said human body proximity sensors are provided; wherein a first human body proximity sensor detects the proximity of the human body when the passenger is being seated in a posture leaning against the door, and a second human body proximity sensor does not detect the proximity of the human body when the passenger is being seated in the posture leaning against the door.

3. The passenger discriminating apparatus of Claim 1, wherein the means for determining is configured to determine that there is no passenger when the output of the seat weight sensor is not more than a first threshold value.

4. The passenger discriminating apparatus of claim 3, wherein the means of determining apparatus is configured to determine that a child is sitting directly on the seat when the output of said seat weight sensor exceeds the first threshold value and is not more than a second threshold value and when said human body proximity sensor detects the proximity of the human body

5. The discriminating apparatus of claim 4, wherein the means for determining is configured to determine that a child seat is mounted when the output of said seat weight

sensor exceeds the first threshold value and is not more than a second threshold value and when said human body proximity sensor does not detect the proximity of the human body.

6. The discriminating apparatus of claim 4, wherein the means for determining is configured to determine that an adult is seated in the seat when the output of said seat weight sensor exceeds the second threshold value and when said human body proximity sensor detects the proximity of the human body.

7. The discriminating apparatus of claim 4, wherein the means for determining is configured to determine that a child seat is mounted on the seat when the output of said seat weight sensor exceeds the second threshold value and when said human body proximity sensor does not detect the proximity of the human body.

8. The passenger discriminating apparatus of Claim 4, wherein the means for determining functions to decrease the value of the second threshold value by a prescribed amount when the first human body proximity sensor detects the proximity of the human body and the second human body proximity sensor does not detect the proximity of the human body.

9. An airbag system comprising:

a passenger discriminating apparatus comprising:

    a seat weight sensor for measuring the weight of an object on the seat; and

    a human body proximity sensor for detecting the extent of proximity between the passenger on the seat and the seat; and

    means for determining the presence of the passenger on the seat and for discriminating the type of passenger utilizing an output from the seat weight sensor and an output from the human body proximity sensor; and

    an airbag controlling apparatus for controlling deployment of a front airbag, wherein the controlling apparatus is configured to receive a signal from the passenger discriminating apparatus and controls a soft deployment of a front airbag only when at least

a child is sitting on the seat or a child seat is mounted thereon, and controls normal deployment of the front airbag in other cases.

10. An airbag system comprising:

a passenger discriminating apparatus comprising:

a seat weight sensor for measuring the weight of an object on the seat; and

a plurality of human body proximity sensors for detecting the extent of proximity between the passenger on the seat and the seat; and

means for determining the presence of the passenger on the seat and for discriminating the type of passenger utilizing an output from the seat weight sensor and an output from the human body proximity sensor.

wherein a first one of the plurality of human body proximity sensors detects the proximity of the human body when the passenger is being seated in a posture leaning against the door, and a second one of the plurality of human body proximity sensors does not detect the proximity of the human body when the passenger is being seated in the posture leaning against the door; and

an air bag controlling apparatus for controlling deployment of a side airbag, wherein the controlling apparatus is configured to receive a signal from the passenger discriminating apparatus and controls a soft deployment of the side airbag when at least a child is sitting on the seat or a child seat is mounted thereon and further when the first human body proximity sensor detects the proximity of the human body and the second human body proximity sensor does not detect the proximity of the human body, and to carry out normal deployment in other cases